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Invariants of Fokker-Planck equations

Abe S.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2017, EDP Sciences and Springer.A weak invariant of a stochastic system is defined in such a way that its expectation value with respect to the distribution function as a solution of the associated Fokker-Planck equation is constant in time. A general formula is given for time evolution of the fluctuations of the invariant. An application to the problem of share price in finance is illustrated. It is shown how this theory makes it possible to reduce the growth rate of the fluctuations.

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